

Claims:

1. A pole and structure apparatus comprising:

A plurality of poles, each pole having a midsection and upper and lower ends;

5 A holder having an open position and a closed position, said holder being dimensioned and configured for gripping each of the plurality of poles when the holder is in a closed position, the holder being further configured to hold and orient the poles to form a structure having a plurality of legs, the legs being configured and positioned for engaging the ground and creating a standing structure, the holder being configured to release the poles when moved to the open position to enable disassembly of the structure;

10 A closure mechanism associated with a holder for securing the holder in a closed position to secure the poles in a desired position;

a release mechanism associated with the holder and the closure mechanism for releasing the closure mechanism and for releasing the poles from the holder to enable disassembly of the structure.

2. The apparatus of claim 1 wherein said holder further comprises:

a hub including a plurality of movable hub components operable to move between a closed position and an open position;

5 Said hub components being configured to form cylindrical receivers when the hub components are in the closed position, the cylindrical receivers being dimensioned to receive and tightly grip the poles when the closure mechanism holds the poles in a closed position; and
Said hub components being configured and dimensioned to release the poles when the hub components are moved to the open position.

3. The apparatus of claim 1 wherein said holder engages the midsections of the poles to form a tripod structure having three downwardly extending legs and having three upwardly extending legs.

4. The apparatus of claim 1 wherein said holder engages the midsections of the poles to form a tripod structure having three downwardly extending legs and having three upwardly extending legs and further comprising a triangular seat having the three corners and pockets formed in the corners to receive the upper ends of the poles and mount the seat on the poles, the seat being
5 dimensioned to extend tightly between the upper ends of the three upwardly extending legs to form a tripod stool with a seat supported by the poles.

5. The apparatus of claim 1 where in the closure mechanism is an over-the-center clamp for applying a force to the holder urging the holder toward a closed position and thereby holding the holder in a closed position.

6. The apparatus of claim 1 wherein said holder comprises:

a top plate, a middle plate and a bottom plate;

An axle for holding each of the plates and for allowing at least the middle plate to rotate about the axle relative to the top and bottom plates;

5 A plurality of semi-cylindrical inclined surfaces being formed on each of the top plate, middle plate and bottom plate, each of the semi-cylindrical inclined surfaces on the top plate corresponding to one of the semi-cylindrical surfaces on the bottom plate, the corresponding semi-cylindrical surfaces on the top and bottom plates being oriented to face in the same direction;

10 Each of the semi-cylindrical inclined surfaces on the middle plate corresponding to one of the semi-cylindrical inclined surfaces on the top or bottom plate and being oriented to face in an opposite direction, opposite from the same direction, each of the semi-cylindrical inclined surfaces of the bottom and top plates being positioned in an opposing relationship to one of the semi-cylindrical inclined surfaces of the middle plate so that when the holder is in a closed
15 position, the semi-cylindrical inclined surfaces form a plurality of inclined cylindrical receivers dimensioned to grip and hold the poles.

7. The apparatus of claim 1 wherein said holder comprises:

a plurality of plates;

An axle for holding each of the plates and for allowing at least the one plate to rotate about the axle relative to another plate;

- 5 A plurality of semi-cylindrical inclined surfaces being formed on each of the plates, each of the semi-cylindrical inclined surfaces on the one plate corresponding to one of the semi-cylindrical surfaces on the other plate; and

Each of the semi-cylindrical inclined surfaces on the one plate being oriented to face in an opposite direction from the corresponding ones of the semi-cylindrical inclined surfaces of the
10 other plates so that when the holder is in a closed position, the semi-cylindrical inclined surfaces form a plurality of inclined cylindrical receivers dimensioned to grip and hold the poles.

8. The apparatus of claim 1 wherein said holder comprises:

A plurality of plates dimensioned and configured for forming cylindrical inclined receivers for the poles;

- A ratchet axle having a ratchet mode of operation and a freewheeling mode of operation for
5 mounting the plates in an adjacent relationship and, in the ratchet mode of operation, allowing the plates to move in one direction relative to each other and preventing the plates from moving in the opposite direction relative to each other; and

A release mechanism associated with the ratchet axle for being actuated to release the ratchet axle and place the ratchet axle in the freewheeling mode of operation that allows the plates to move in
10 at least said opposite direction.

9. The apparatus of claim 1 wherein said holder comprises:

A hub for holding the poles, the hub comprising:

A core;

5 A plurality of the jaws and mounted on the core, said jaws and core being dimensioned and configured to form inclined cylindrical receivers for gripping and holding the poles.

10. The apparatus of claim 1 wherein said holder comprises:

A core having a plurality of semi-cylindrical inclined surfaces formed in the core;

A plurality of the jaws, each jaw having a semi-cylindrical inclined surfaces formed in the jaw;

5 A plurality of hinges, each hinge mounting one jaw on the core with the semi-cylindrical inclined surfaces of the core being a position opposite from the semi-cylindrical inclined surfaces of the jaws, each of said jaws being moveable on one of said hinges to a closed position to form a cylindrical receiver dimensioned and configured for gripping and holding the poles, each of said jaws being movable on one of said hinges to an open position to release the poles from the cylindrical receiver.

11. The apparatus of claim 1 wherein said holder comprises:

A core having a plurality of semi-cylindrical inclined surfaces formed in the core;

A plurality of the jaws, each jaw having a semi-cylindrical inclined surfaces formed in the jaw;

5 A closure mechanism for holding in the jaws in a closed position in which the poles are gripped between the semi-cylindrical inclined surfaces of the core and the jaws; and

A release mechanism for releasing the closure mechanism and allowing the jaws to move to an open position in which poles may be removed from the grip of the semi-cylindrical inclined surfaces.

12. The apparatus of claim 1 wherein said poles further comprise reinforcement along the midsection of each pole for engaging the holder and resisting forces applied by the holder to the pole so that the holder does not deform the pole.

13. The apparatus of claim 1 further comprising a plurality of sleeves dimensioned and configured to fit on the ends of each pole and protect the pole end during use in the standing structure.

14. The apparatus of claim 1 further comprising an accessory attached to the holder when the holder and poles are formed into the standing structure.

15. The apparatus of claim 1 further comprising a camera mount attached to the holder, said holder being attached to the upper ends of each leg to form a standing structure in the form of a tripod with the camera mount disposed at the top of the tripod.

16. The apparatus of claim 1 further comprising a tabletop attached to the holder, said holder being attached to the upper ends of each leg to form a standing structure in the form of a tripod with the table top disposed at the top of the tripod.

17. The apparatus of claim 1 wherein said holder engages the midsections of the poles to form a standing structure having a plurality of downwardly extending legs and having a plurality of upwardly extending legs and further comprising a seat having a plurality of corners and pockets formed in the corners to receive the upper ends of the poles and mount the seat on the poles, the seat being dimensioned to extend tightly between the upper ends of the upwardly extending legs to form a stool with a seat supported by the poles.

18. An apparatus for holding elongate members to form a structure comprising:

A first holding member having a midregion and a plurality of engagement members extending from the midregion, each of the engagement members including a first engagement surface oriented in a first direction;

A second holding member having a mid region and a plurality of engagement members extending from the midregion, each of the engagement members including a second engagement surface oriented in a second direction;

A connector for connecting the first and second holding members together in a position orienting the first and second of holding members to place at least some of the first engagement surfaces in an opposing relationship with at least some of the second engagement surfaces;

A closure mechanism for retaining the first and second holding members in a closed position in which the elongate members may be gripped between the first and second engagement surfaces, and for being released and allowing the first and second engagement surfaces to move apart enabling release of the elongate members from the grip of the first and second engagement the surfaces.

19. The apparatus of claim 18 wherein the engagement members extend generally outwardly and radially from the midregion of each of the first and second holding members and wherein the first and second engagement surfaces are each inclined semi-cylindrical surfaces dimensioned to engage and substantially conform to the elongate members.

20. The apparatus of claim 18 wherein the connector is an axle for mounting the first and second holding members in a side-by-side parallel relationship, said first and second holding members being mounted on the axle with at least one of said holding members being mounted on the axle for rotation relative to the other holding member.

21. The apparatus of claim 18 further comprising:

A third holding member having a midregion and a plurality of engagement members extending from the midregion, each of the engagement members including a third engagement surface oriented in the first direction;

5 The connector retaining the first second and third holding members in a side by side parallel relationship with the second holding member being positioned between the first and third holding members, the second holding member being retained by the connector for rotation relative to the first and third holding members;

The closure mechanism for retaining the first, second and third holding members in a closed position in which the first, second and third engagement surfaces form receivers dimensioned and configured to grip and hold the elongate members with the first and third engagement surfaces being disposed on one side of the elongate members and the third engagement surfaces being disposed on the opposite side of the elongate members in an opposing relationship to the first and third engagement surfaces so that the plurality of elongate members may be gripped

- 15 between the plurality of first and third engagement surfaces on one side and the plurality of third engagement surfaces on the other side of the elongate members.